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EXAMINER

KERSHTEYN, IGOR

ART UNIT

PAPER NUMBER

3745

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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DETAILED ACTION

Response to Arguments

Applicant's arguments filed 02/02/09 have been fully considered but they are not persuasive.

In the Arguments, Applicant generally states that "It is apparent that when the angle α is between 90 and 120 degrees and the back edge of the outside shell coincides with its maximum diameter, the exterior surface of the outside shell 10, as seen in Fig. 1, creates a diverging airflow at the rear of the outside shell 10. Since the exterior surface of the outside shell 10 of Orlov would be the exterior surface of the encasement assembly of the invention claimed by the Applicant, it is clear that the outside shell 10 does not form an airfoil, so as to provide converging airflow, as is claimed by the Applicant in amended claim 9."

This statement is not agreed with because Orlov et al., as can be clearly seen in figure 2, teach the encasement assembly 10 that does show the above feature, that is the assembly 10 does have the shape of the airfoil with the trailing edge 15 that narrows down to direct airflow to converge towards the trailing edge of shell 4.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 9, 11, 14, 18, 19, 21, 24, 27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Orlov et al. (6,382,904).

In figures 2-4, Orlov et al. teach a fluid turbine, comprising: a rotor and blade assembly 1, including: a rotor (not numbered), the rotor being rotatable about a rotation axis; a plurality of blades (inherently), each of the blades having a tip (inherently), the blade tips defining a blade tip radius with respect to the rotation axis; a fluid displacement head 14 arrangement blocking off at least 50% of the blade tip radius from the rotation axis towards the blade tips, the fluid displacement head arrangement shaped to redirect blocked-off fluid towards the blades extending radially beyond a blocked-off area; and an annular fluid intake scoop and flow through encasement assembly 10 surrounding the rotor and blade assembly, the encasement assembly having an interior surface and an exterior surface (not numbered), the exterior surface of the encasement assembly is shaped to form an airfoil to provide converging airflow for augmenting exhaust from the turbine.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12, 13, 20, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orlov et al. (6,382,904) in view of Karlsson et al. (4,320,304).

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Orlov et al. teach the interior surface of the encasement assembly has an expanding exhaust channel surface 7 rearward of the blades, the fluid displacement head arrangement is, at least in part, spherical.

Orlov et al. don't teach the fluid velocity increasing surface is S-shaped.

Karlsson et al., in figures 6 and 7, teaches a fluid turbine having a rotor 10 having a plurality of blades, a fluid head (not numbered), and an encasement assembly 1,2 the interior surface of the encasement assembly has a fluid velocity increasing surface (not numbered) forward of the blades, the fluid velocity increasing surface being shaped to increase the velocity of fluid entering the turbine, the fluid velocity increasing surface is S-shaped.

Since Orlov et al. and Karlsson et al. are analogous art because they are from the same field of endeavor, that is the fluid turbine art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the flow through encasement assembly surrounding the rotor and blade assembly of Orlov et al. with the fluid velocity increasing surface that is S-shaped as taught by Karlsson et al. for the purpose of improving the overall efficiency.

Claim 23 rejected under 35 U.S.C. 103(a) as being unpatentable over Orlov et al. (6,382,904) in view of Rabinow (2,973,041).

Orlov et al. teaches all the claimed subject matter except that he doesn't teach the each of the blades has a controllable blade pitch.

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Rabinow, in figures 1-3, teaches a windmill 10 having blades 14, and a fluid displacement head 13, each of the blades 13 has a controllable blade pitch.

Since Orlov et al. and Rabinow are analogous art because they are from the same field of endeavor, that is the fluid turbine art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the fluid turbine of Orlov et al. with each of the blades having a controllable blade pitch as taught by Rabinow for the purpose of varying the pitch of the blades in accordance with variations in rotational speed.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Orlov et al. (6,382,904) in view of Hesh (4,868,408).

Orlov et al. teaches all the claimed subject matter except that he doesn't teach the fluid turbine is a water turbine.

Hesh, in figure 1, teaches a water turbine having a rotor and blade assembly, including: a rotor 30, the rotor being rotatable about a rotation axis; a plurality of blades, each of the blades having a tip, the blade tips defining a blade tip radius with respect to the rotation axis; and a fluid displacement head arrangement but fails to teach the head arrangement blocking off at least 50% of the blade tip radius from the rotation axis towards the blade tips..

Since Orlov et al. and Hesh are analogous art because they are from the same field of endeavor, that is the axial flow turbine art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to use the

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turbine of Orlov et al. with the water as working fluid as taught by Hwsh for the purpose of creating an energy.

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orlov et al. (6,382,904) in view of Francis (4,424,452).

Orlov et al. teaches all the claimed subject matter except that he doesn't teach the blades are in two spaced-apart rows and a plurality of flow stabilizers in between the rows of blades.

In figures 2 and 3, Francis teaches a fluid turbine, comprising: a rotor and blade assembly, including: a rotor 12, the rotor being rotatable about a rotation axis; a plurality of blades 22,23,24, each of the blades having a tip (not numbered), the blade tips defining a blade tip radius with respect to the rotation axis; a fluid displacement head 25 arrangement blocking off at least 50% of the blade tip radius from the rotation axis towards the blade tips, the fluid displacement head arrangement shaped to redirect blocked-off fluid towards the blades extending radially beyond a blocked-off area, the blades 22, 23 are in two spaced-apart rows and a plurality of flow stabilizers 19 in between the rows of blades.

Since Orlov et al. and Francis are analogous art because they are from the same field of endeavor, that is the axial flow turbine art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the turbine of Orlov et al. with the blades are in two spaced-apart rows and a plurality of

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flow stabilizers in between the rows of blades as taught by Francis for the purpose of improving the overall efficiency of the turbine.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is 571-273-8300.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

/Igor Kershteyn/
Primary Examiner, Art Unit 3745